

1 WHAT IS CLAIMED IS:

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3 1. An exhaust gas purifying catalyst comprising:

4 a carrier;

5 an NO_x absorbent catalyst layer; and

6 a three-way catalyst layer;

7 wherein at least one absorbent agent selected from a group of alkali metals and alkali
8 earth metals is added to said NO_x absorbent catalyst layer; and

9 wherein an effect inhibiting material for inhibiting an effect of said absorbent agent on
10 said three-way catalyst layer is added to at least one of said NO_x absorbent catalyst layer and
11 said three-way catalyst layer.
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13 2. An exhaust gas purifying catalyst according to claim 1, wherein:

14 said effect inhibiting material is added to said NO_x absorbent catalyst layer, and inhibits
15 movement of said absorbent agent to said three-way catalyst layer.
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17 3. An exhaust gas purifying catalyst according to claim 2, wherein:

18 said effect inhibiting material is comprised of one or more materials selected from a
19 group formed by an acid oxide including at least one acid substance selected from transition
20 elements in an IV group, a V group and a VI group and typical elements in the IV group, the V
21 group and the VI group; a complex oxide including said at least one acid substance; and such
22 materials as not to disturb reaction of a nitrogen oxide and said absorbent agent.
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1 4. An exhaust gas purifying catalyst according to claim 3, wherein:
2 said effect inhibiting material includes an acid oxide composed of at least one acid
3 substance among silicon (Si) and tungsten (W).

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5 5. An exhaust gas purifying catalyst according to claim 2, wherein:
6 said effect inhibiting material includes at least one of zeolite and titanium dioxide
7 (TiO₂).

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9 6. An exhaust gas purifying catalyst according to claim 1, wherein:
10 said effect inhibiting material is added to said three-way catalyst layer and transforms
11 into a stable substance by reacting to said absorbent agent.

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13 7. An exhaust gas purifying catalyst according to claim 6, wherein:
14 said effect inhibiting material comprises an acid material that transforms into a stable
15 substance by reacting to said absorbent agent.

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17 8. An exhaust gas purifying catalyst according to claim 7, wherein:
18 said effect inhibiting material includes at least one of silica (SiO₂), tungsten (W) and
19 phosphorus (P).

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21 9. An exhaust gas purifying catalyst according to claim 2, wherein:
22 said effect inhibiting material is added to said three-way catalyst layer and transforms
23 into a stable substance by reacting to said absorbent agent.

1 10. An exhaust gas purifying catalyst according to claim 9, wherein:

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5MB 3 said effect inhibiting material includes at least one of silica (SiO₂), tungsten (W) and
4 phosphorus (P).

5 11. An exhaust gas purifying catalyst according to claim 1, further comprising:

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7 an absorbent agent block layer for inhibiting movement of said absorbent agent to said
8 three-way catalyst layer which is formed between said NOx absorbent catalyst layer and said
9 three-way catalyst layer.

10 12. An exhaust gas purifying catalyst according to claim 2, further comprising:

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12 an absorbent agent block layer for inhibiting movement of said absorbent agent to said
13 three-way catalyst layer which is formed between said NOx absorbent catalyst layer and said
14 three-way catalyst layer.

15 13. An exhaust gas purifying catalyst according to claim 6, further comprising:

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17 an absorbent agent block layer for inhibiting movement of said absorbent agent to said
18 three-way catalyst layer which is formed between said NOx absorbent catalyst layer and said
19 three-way catalyst layer.

20 14. An exhaust gas purifying catalyst according to claim 9, further comprising:

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22 an absorbent agent block layer for inhibiting movement of said absorbent agent to said
23 three-way catalyst layer which is formed between said NOx absorbent catalyst layer and said
three-way catalyst layer.

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2 15. An exhaust gas purifying catalyst comprising:

3 a carrier;

4 an NOx absorbent catalyst layer; and

5 a three-way catalyst layer; and

6 an effect inhibiting layer to which an effect inhibiting material for inhibiting movement
7 of said absorbent agent to said three-way catalyst layer is added which is formed between said
8 NOx absorbent catalyst layer and said three-way catalyst layer;

9 wherein at least one absorbent agent selected from a group of alkali metals and alkali
10 earth metals is added to said NOx absorbent catalyst layer.

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12 16. An exhaust gas purifying catalyst according to claim 15, wherein:

13 said effect inhibiting layer is comprised of one or more materials selected from a group
14 formed by an acid oxide including at least one acid substance selected from transition elements
15 in an IV group, a V group and a VI group and typical elements in the IV group, the V group and
16 the VI group; a complex oxide including said at least one acid substance; and such materials as
17 not to disturb reaction of a nitrogen oxide and said absorbent agent.

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19 17. An exhaust gas purifying catalyst according to claim 15, wherein:

20 said effect inhibiting layer includes at least one acid substance between silicon (Si) and
21 tungsten (W).
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1 18. An exhaust gas purifying catalyst according to claim 15, wherein:
2 said effect inhibiting layer includes at least one of zeolite and titanium dioxide (TiO₂).
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4 19. An exhaust gas purifying catalyst according to claim 15, wherein:
5 an effect inhibiting material for inhibiting movement of said absorbent agent to said
6 three-way catalyst layer is added to said NO_x absorbent catalyst layer.
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8 20. An exhaust gas purifying catalyst according to claim 19, wherein:
9 an effect inhibiting material that transforms into a stable substance by reacting to said
10 absorbent agent is added to said three-way catalyst layer.
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12 21. An exhaust gas purifying catalyst according to claim 15, wherein:
13 an effect inhibiting material that transforms into a stable substance by reacting to said
14 absorbent agent is added to said three-way catalyst layer.
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16 22. A method for manufacturing an exhaust gas purifying catalyst comprising:
17 forming a first catalyst layer over a carrier; and
18 forming a second catalyst layer over the first layer;
19 wherein one of said first catalyst layer and said second catalyst layer comprises a NO_x
20 absorbent catalyst layer including at least one absorbent agent selected from a group of alkali
21 metals and alkali earth metals;
22 wherein another of said first catalyst layer and said second catalyst layer comprises a
23 three-way catalyst layer; and

SUB 452
1 wherein an effect inhibiting material for inhibiting an effect of said absorbent agent on
2 said three-way catalyst layer is added to at least one of said NOx absorbent catalyst layer and
3 said three-way catalyst layer.
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5 23. A method for manufacturing an exhaust gas purifying catalyst as claimed in
6 claim 22, wherein the first catalyst layer is the NOx absorbent catalyst layer and said second
7 catalyst layer is said three-way catalyst layer.
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9 24. A method of manufacturing an exhaust gas purifying catalyst as claimed in
10 claim 22, wherein the second catalyst layer is the NOx absorbent catalyst layer and said first
11 catalyst layer is said three-way catalyst layer.
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13 25. A method for manufacturing an exhaust gas purifying catalyst comprising:

14 forming a first catalyst layer over a carrier;

15 forming an inhibiting layer over said first catalyst layer; and

16 forming a second catalyst layer over the first catalyst layer;

17 wherein one of said first catalyst layer and said second catalyst layer comprises a NOx
18 absorbent catalyst layer including at least one absorbent agent selected from a group of alkali
19 metals and alkali earth metals;

20 wherein another of said first catalyst layer and said second catalyst layer comprises a
21 three-way catalyst layer; and

22 wherein said effect inhibiting layer includes an effect inhibiting material for inhibiting
23 movement of said absorbent agent to said three-way catalyst layer.

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26. A method for manufacturing an exhaust gas purifying catalyst as claimed in claim 25, wherein the first catalyst layer is the NOx absorbent catalyst layer and said second catalyst layer is said three-way catalyst layer.

27. A method of manufacturing an exhaust gas purifying catalyst as claimed in claim 25, wherein the second catalyst layer is the NOx absorbent catalyst layer and said first catalyst layer is said three-way catalyst layer.

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